Store at 4°C

Propidium Iodide (PI)/RNase Staining Solution

100 ml

#4087

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Background: Propidium Iodide (PI) is a fluorescent dye which intercalates between bases and stains both DNA and RNA. Specific DNA staining is achieved by enzymatic removal of RNA with a ribonuclease (RNase). PI/RNase is commonly used as a nuclear stain in fluorescent microscopy and as a DNA content determinant in cell cycle analyses by flow cytometry. Cells in G2 and M phases of the cell cycle contain twice the DNA content compared to those in G0 and G1 phases. DNA content during S phase lies between these extremes. PI/RNase Staining Solution has an excitation and emission maxima of 535 and 617 nm, respectively (orange to red range of the spectrum). This staining solution can be used in tandem with antibodies without binding interference and is a suitable DNA stain for multiplex assays. (1-3)

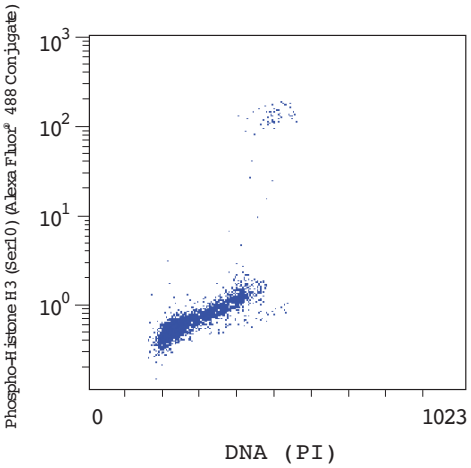
Directions for Use: As a last step for fluorescent assays, add enough neat (undiluted) PI/RNase Staining Solution to submerge cells or samples. Incubate for 15 minutes at room temperature, protected from light before analysis.

Background References:

(1) Suzuki, T. et al. (1997) *J Histochem Cytochem* 45, 49-53.

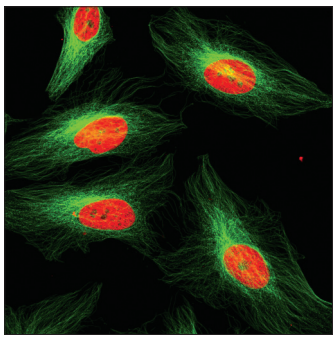
(2) Jones, K.H. and Kniss, D.A. (1987) *J Histochem Cytochem* 35, 123-5.

(3) Deitch, A.D. et al. (1982) *J Histochem Cytochem* 30, 967-72.



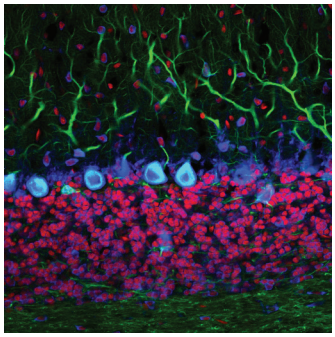
Flow cytometric analysis of untreated Jurkat cells, using Phospho-Histone H3 (Ser10) Antibody (Alexa Fluor® 488 Conjugate) #9708 and Propidium Iodide (PI)/RNase Staining Solution (DNA content).

HeLa



Confocal immunofluorescent analysis of HeLa cells using α-Tubulin (DM1A) Mouse mAb #3873 (green). Red = Propidium Iodide (PI)/RNase Staining Solution.

Rat Cerebellum



Confocal immunofluorescent analysis of rat cerebellum using S6 Ribosomal Protein (54D2) Mouse mAb (Alexa Fluor® 647 Conjugate) #5548 (blue pseudocolor) and β3-Tubulin (D71G9) XP® Rabbit mAb #5568 (green). Red = Propidium Iodide (PI)/ RNase Staining Solution.

Storage: Store at 4ºC protected from light, do not aliquot or dilute. The solution is stable for 12 months.

Applications: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **FC-FP**— Flow cytometry-Fixed/Permeabilized **FC-L**— Flow cytometry-Live **E-P**—ELISA-Peptide
Species Cross-Reactivity: **H**—human **M**—mouse **R**—rat **Hm**—hamster **Mk**—monkey **Mi**—mink **C**—chicken **Dm**—D. melanogaster **X**—Xenopus **Z**—zebrafish **B**—bovine **Dg**—dog **Pg**—pig **Sc**—S. cerevisiae **Ce**—C. elegans **Hr**—Horse
All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.